

### **REMARKS**

Claims 3, 5-11, 14, 16-22, 25, and 27-33 are pending in the application. The Examiner's reconsideration of the rejections in view of the remarks is respectfully requested.

Claims 3, 5-11, 14, 16-22 and 25, 27-33 have been rejected under 35 USC 101, as being directed to non-statutory subject matter.

Claims 3, 5, 9-11, 14, 25, 27 and 31-33 are the independent claims.

Referring to Claims 3, 5, 9-11; Claims 3, 5, 9-11 claim, *inter alia*, “a pointer array electrically coupled by a bus to the vector data file, the pointer array including a plurality of entries wherein each entry identifies at least one storage element in the vector data file.” The “bus” as recited in Claim 3 grounds the claims in hardware, e.g., electrically coupling a pointer array and a vector data file. Such a bus is not implemented in software. Respectfully, the Examiner appears to have ignored the plain language of the claim in referencing the specification for software implementations. Indeed, interpreting a bus as software is contrary to the plain meaning of the word itself. The applicant's have not claimed a signal as the Examiner suggests – applicants note that the portion of the 101 Guidelines cited by the Examiner is directed to “claims that recite nothing but the physical characteristics of a form of energy” (page 55, lines 4-5), clearly this is not applicable to Claims 3, 5, 9-11, as no physical characteristics of a signal are claimed. Further, the claim is clearly directed to a computer processor and more particularly to its architecture, and further to an architecture including a bus electrically connecting a pointer array to the vector data file, see for example, Figures 1 and 2. Thus, the plain language of the claim is directed to hardware. With respect to the practical application of the computer

processing, that is clearly in processing an operation, as claimed in the preamble. Therefore, Claims 3, 5, 9-11 are believed to be directed towards tangible subject matter and is statutory.

Referring to Claim 14; Claim 14 recites, *inter alia*, a computer-implemented method “updating at least one of the entries of the pointer array based on one of data read out from at least one data element in the vector data file and data generated by performing an increment operation on data read from at least one entry of the pointer array, wherein at least two entries of the pointer array are updated as part of a same logical operation.” Such an updating, and the resulting pointer array, allow for “at least two entries of the pointer array are updated as part of a same logical operation” – a practical application of the method. Exemplary uses of such an update include flexible addressing, reducing program sizes, increasing processor efficiency, etc. (see page 28, liens 4-20). The practical application of the updated data is clearly in the performance of processing operations – each update being a practical application of the method in furtherance of the operations. Consider that in *Diamond v. Diehr*, 450 U.S. 175, 209 USPQ 1 (1981), the Court noted, “when [a claimed invention] is performing a function which the patent laws were designed to protect (e.g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of Section 101.” *Diehr*, 450 U.S. at 192. In Claims 14, at least two entries of the pointer array are updated as part of a same logical operation. The updated entries of the pointer array are a reduction of one of data read out from at least one data element in the vector data file and data generated by performing an increment operation on data read from at least one entry of the pointer array; the updated entries of the pointer array are therefore believed to be a useful, tangible and concrete result of the application of the claimed limitations. For example, consider the following:

“[T]ransformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces ‘a useful, concrete and tangible result’ -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.” *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601.

It is important to note that a resulting use of the final share price for recording and reporting purposes, etc., is not recited in the claims of the patent at issue in *State Street*. It is enough for the result, e.g., a final share price or updated entries of the pointer array, to be useful. A limitation explicitly claiming a use of the result is not needed to satisfy the requirements of 35 USC 101. Therefore, Claim 14 is believed to be directed towards statutory subject matter.

Claims 7 and 8 depend from Claim 3. Claim 6 depends from Claim 5. Claims 16, 18 and 19-22 depend from Claim 14. The dependent claims are believed to be allowable for at least the reasons given for the respective independent claims. The Examiner’s reconsideration of the rejection is respectfully requested.

As to Claims 25-27 and 31-33, the Examiner stated essentially that the claims are not directed towards tangible embodiments.

Claims 25, 27 and 31-33 are the independent claims.

Claims 25, 27 and 31-33 are directed towards, “A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for processing operations that use data vectors each comprising a plurality of data

elements”

A claim to a computer readable medium encoded with functional descriptive material that can function with a computer to effect a practical application that results in a useful, concrete and tangible result is believed to satisfy Section 101; see for example, U.S. Patent 5,710,578 to Beauregard et al. Such claims, e.g., those directed towards a program storage device are well established as being statutory subject matter. Therefore, Claims 25, 27 and 31-33 are believed to be directed towards statutory subject matter.

Further, referring in particular to Claims 25 and 27, which claim, *inter alia*, “updating at least one of the entries of the pointer array based on one of data read out from at least one data element in the vector data file and data generated by performing an increment operation on data read from at least one entry of the pointer array, wherein at least two entries of the pointer array are updated as part of a same logical operation” and “updating at least one of the entries of the pointer array based on one of data read out from at least one data element in the vector data file and data generated by performing an increment operation on data read from at least one entry of the pointer array, wherein the increment operation further includes at least one of a modulo operation and a stride operation on data read from at least one entry of the pointer array”, respectively; each such update is a practical application of program storage device and associated method in furtherance of the operations that use data vectors.

Claims 29 and 30 depend from Claim 25. Claim 28 depends from Claim 27. The dependent claims are believed to be allowable for at least the reasons given for the respective independent claims.

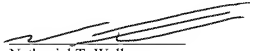
The Examiner’s reconsideration of the rejection is respectfully requested.

For the forgoing reasons, the application, including Claims 3, 5-11, 14, 16-22 and 25, 27-33, is believed to be in condition for allowance. Early and favorable reconsideration of the case is respectfully requested.

Respectfully submitted,

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